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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,372	09/30/2003	Alexander A. Maltsev	884.A52US1	3228

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EXAMINER	
JONES, PRENELL P	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/676,372	MALTSEV ET AL.	
	Examiner	Art Unit	
	Prenell P. Jones	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/20/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,7,19-32,34 and 37* is/are rejected.

7)☒ Claim(s) *5,8-18,33,35 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/20/06,5/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 26-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 26-29, Applicant is claiming in claims 26-29 "***machine readable medium***," which is non-statutory subject matter, because Applicant is claiming the software performing operations, which is functional descriptive material.

The preferred descriptive material is not recited as recorded on "computer readable medium." See "interim guidelines."

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-7, 19--32, 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrow (US Pat 5,022,046) in view of Chapman et al (US PGPUB 2004/0163129) and Hall et al (US PG PUB 2002/0126650).

Regarding claim 1, 19 and 34, Hall discloses communicating CDMA packets wherein the frame structure communicates a structure that includes training symbols fields, various channelization fields, sub-channels, (Fig. 7, 9a, paragraphs 0011, 0041, 0046-0049). Although Hall is not specific on wideband-header fields and identifying sub-fields present in a wideband header, in a communication system whereby communication packets are communicated, Morrow (US Pat 5,022,046) discloses a packet data communication system wherein the communicating packet word format includes narrowband and wideband signaling features, wherein the wideband section includes a wideband header field and a wideband data field (Abstract, Fig. 4, col. 9, line 2-35), and Chapman increases available bandwidth by utilizing encoding wideband packets associated with wideband channels, wherein the format for a wideband packet includes wideband header field, stuff bytes/data field and MAC control frame (Abstract, Fig. 7-9, 15, 16), PID is used in wideband packet header to identify wideband channel, and wideband channel is used to identify fields associated with wideband channel (paragraph 0037, 0079).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement communicating wideband header field

where in channels are identified as taught by the combined teachings of Morrow and Chapman as to further minimize and control interference.

Regarding claim 2, 6 and 20, Hall further discloses that adaptation to operate whereby channels are compatible waveforms with respect to a single channel and its associated symbol modulated sub-carrier (0010, 0041, 0048, 0053, 0063, 0072, 0122).

Regarding claim 3, 4, 21 and 22 and 32, Hall further discloses a training symbol field accompanied by a channelization field as associated with wideband communication (Fig. 7 & 9A, paragraph 0011).

Regarding claim 7 and 37, Hall further discloses encoder operating in association with QPSK modulation scheme, wherein the encoding scheme is predefined as including a ½ rate convolution (paragraph 0007, 0009-0011).

Regarding claim 23 and 24, as indicated above, combined Hall, Morrow and Chapman discloses communicating CDMA packets wherein the frame structure communicates a structure that includes training symbols fields, various channelization fields, sub-channels, wideband-header fields and identifying sub-fields present in a wideband header, in a communication system whereby communication packets are communicated, narrowband and wideband signaling features, wherein the wideband section includes a wideband header field and a wideband data field increasing available bandwidth by utilizing encoding wideband packets associated with wideband channels, PID is used in wideband packet header to identify wideband channel, and wideband

channel is used to identify fields associated with wideband channel. Hall further discloses utilizing omni directional antenna (paragraph 0074).

Regarding claim 25, Hall further discloses a training symbol field accompanied by a channelization field as associated with wideband communication (Fig. 7 & 9A, paragraph 0011).

Regarding claim 26 and 29, as indicated above, combined Hall, Morrow and Chapman discloses communicating CDMA packets wherein the frame structure communicates a structure that includes training symbols fields, various channelization fields, sub-channels, wideband-header fields and identifying sub-fields present in a wideband header, in a communication system whereby communication packets are communicated, narrowband and wideband signaling features, wherein the wideband section includes a wideband header field and a wideband data field increasing available bandwidth by utilizing encoding wideband packets associated with wideband channels, PID is used in wideband packet header to identify wideband channel, and wideband channel is used to identify fields associated with wideband channel. Although, Hall, Morrow and Chapman are silent on a processor being utilized to implement the claimed invention, it is inherent to implement execution of instructions via utilizing processors.

Regarding claim 27, Hall further discloses that adaptation to operate whereby channels are compatible waveforms with respect to a single channel and its associated symbol modulated sub-carrier (0010, 0041, 0048, 0053, 0063, 0072, 0122).

Regarding claim 28, Hall further discloses a training symbol field accompanied by a channelization field as associated with wideband communication (Fig. 7 & 9A, paragraph 0011).

Regarding claim 30, as indicated above, combined Hall, Morrow and Chapman discloses communicating CDMA packets wherein the frame structure communicates a structure that includes training symbols fields, various channelization fields, sub-channels, wideband-header fields and identifying sub-fields present in a wideband header, in a communication system whereby communication packets are communicated, narrowband and wideband signaling features, wherein the wideband section includes a wideband header field and a wideband data field increasing available bandwidth by utilizing encoding wideband packets associated with wideband channels, PID is used in wideband packet header to identify wideband channel, and wideband channel is used to identify fields associated with wideband channel. Although, Hall, Morrow and Chapman are silent on a processor being utilized to implement the claimed invention, it is inherent to implement execution of instructions via utilizing processors. Hall further discloses utilizing orthogonal symbol modulation sub-carrier (paragraph 0009,0041, 0049, 0070, 0074, 0141, 0142).

Regarding claim 31, Hall further discloses that adaptation to operate whereby channels are compatible waveforms with respect to a single channel and its associated symbol modulated sub-carrier (0010, 0041, 0048, 0053, 0063, 0072, 0122).

Allowable Subject Matter

1. Claims 5, 8-18, 33, 35 and 36, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

2. The following is a statement of reasons for the indication of allowable subject matter: The combined Hall, Morrow and Chapman discloses communicating CDMA packets wherein the frame structure communicates a structure that includes training symbols fields, various channelization fields, sub-channels, wideband-header fields and identifying sub-fields present in a wideband header, in a communication system whereby communication packets are communicated, narrowband and wideband signaling features, wherein the wideband section includes a wideband header field and a wideband data field increasing available bandwidth by utilizing encoding wideband packets associated with wideband channels, PID is used in wideband packet header to identify wideband channel, and wideband channel is used to identify fields associated with wideband channel.

The prior art fail to teach or suggest fairly with respect to claim 8 and 33, communicating a short compatibility field as part of the packet on the compatibility channel, wherein communication units refrain from transmitting on the identified channel during transmission of the packet, with respect to claim 9 and 10, communicating a long-compatibility field on the compatibility channel, wherein the long compatibility field includes information to reserve at least one of the channels for a time period, wherein a narrow-band communication unit refrains from communicating during the time period in response to receipt of the long-compatibility field, with respect to claim 11, with respect to claim 12, a field to request a power loading per sub-carrier for subsequent transmission of wideband data field, selecting compatible channel based on overlapping

use by at least some of the narrower-band communication units, with respect to claim 16, communicating a long compatibility field on the compatibility channel, wherein the long compatibility field includes information to reserve at least one of the channels for a time period, wherein a narrower-band communication unit refrains from communicating during the time period in response to receipt of the long compatibility field, wherein the wideband header field includes a field to request bit-loading per sub-carrier, with respect to claim 5 and 36, estimating at least one of timing offset, fine frequency offset and channel response using at least the training sequence for processing subsequent wideband fields of the packet, including header field and data field.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones
June 7, 2007

CHI PHAM
SUPERVISORY PATENT EXAMINER 6/11/07